**Chapter 5: Populations**

**State Standards**

6.1 Identify the factors (birth, death, immigration, emigration) that influence population size.

6.2 Analyze changes in population size and biodiversity (speciation and extinction) that result from natural causes, changes in climate, human activity, and the introduction of invasive, non-native species.

Key Terms

Ecology

Demographics

Population size

Population density

Age Structure

Geographic Range

Population distribution

Births

Deaths

Immigration

Emigration

Migration

Growth Rate

Exponential growth

J-shaped curve

Limiting factor

Carrying capacity

Logistic growth

S-shaped curve

Density-dependent controls

Density-independent factors

Demography

Demographic Transition

**You should be able to:**

1. Describe different factors that affect population size
2. Summarize how birth and death rates affect population size
3. Summarize exponential growth, including when and how it would occur in an ecosystem, the shape on the graph, and what conditions are necessary to facilitate this type of growth
4. Summarize logistic growth, including when and how it would occur in an ecosystem, the shape on the graph, and what conditions are necessary to facilitate this type of growth
5. Explain what is meant by the term carrying capacity and identify on a graph where this occurs
6. Explain what limiting factors are
7. Summarize the history of human population growth
8. Identify the size of the human population today
9. Predict how the human population will change on Earth in the next 45-50 years
10. Describe how increasing human populations lead to increasing impact on Earth’s ecosystems
11. Describe how increasing human populations lead to potentially decreasing populations of organisms in ecosystems

**You should know the difference between:**

* Immigration and emigration
* Exponential and logistic growth
* Density dependent and density independent factors (including examples)

**Chapter 5 Video Review**

**Crash Course – Population Ecology**

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**Crash Course – Human Population Growth**

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**The Sci Show – The Science of Overpopulation**

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**NPR – 7 Billion: How Did We Get So Big So Fast?**

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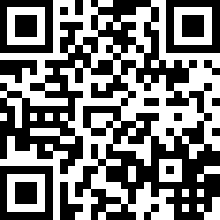
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**Bozeman Biology – Logistic Growth**

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